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Liquid phase growth of silicon crystal used in manufacture of solar batteries - involves immersing substrate in solvent containing dissolved silicon and performing crystal growth by simultaneously supplying raw material gas containing silicon

Patent Assignee: CANON KK (CANO); IWANE M (IWAN-I); NAKAGAWA K (NAKA-I); NISHIDA S (NISH-I); UKIYO N (UKIY-I)

Inventor: IWANE M; NAKAGAWA K; NISHIDA S; UKIYO N

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Patent Family:

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| JP 11292693 | A | 19991026 | JP 98347029 | A | 19981207 | 200003 B |
| US 20020005158 | A1 | 20020117 | US 98208377 | A | 19981210 | 200212 |
| US 6391108 | B2 | 20020521 | US 98208377 | A | 19981210 | 200239 |
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| JP 11292693 | A | | 8 | C30B-029/06 | |
| US 20020005158 | A1 | | | C30B-001/00 | |
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Abstract (Basic): JP 11292693 A

NOVELTY - A silicon crystal is grown on a substrate (102) by immersing or contacting the substrate in a solvent (104) containing dissolved silicon atoms. Raw material gas containing silicon atom is simultaneously supplied to the solvent and silicon crystal is grown by decomposition of the raw material gas.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for (i) the manufacture of solar battery by the liquid phase growth of silicone crystal (ii) the apparatus used for the manufacture of the silicon crystal by liquid phase growth. The apparatus has a reservoir (103) for maintaining the solvent and a device for immersing or contacting the substrate in the solvent. The apparatus is also provided with a pipe (106) through which raw material gas can be blown into the solvent.

USE - The liquid phase growth of silicon crystal is used in the manufacture of solar batteries (claimed).

ADVANTAGE - The supply of raw material is uninterrupted and crystal growth can be continuously performed. The method is suitable for mass production.

DESCRIPTION OF DRAWING - The figure shows the sectional drawing of the liquid phase growth apparatus. (101) Casing; ; (102) Substrate; ; (103) Solvent reservoir; ; (104) Solvent; ; (106) Pipe for introduction of raw material gas; ; (108) Heater.

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Title Terms: LIQUID; PHASE; GROWTH; SILICON; CRYSTAL; MANUFACTURE; SOLAR; BATTERY; IMMERSE; SUBSTRATE; SOLVENT; CONTAIN; DISSOLVE; SILICON; PERFORMANCE; CRYSTAL; GROWTH; SIMULTANEOUS; SUPPLY; RAW; MATERIAL; GAS; CONTAIN; SILICON

Derwent Class: J04; L03; U11; U12

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